VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a Minor, Municipal permit. The effluent limitations contained in this permit will maintain the Water Quality Standards (WQS) of 9VAC25-260. The discharge results from the operation of a municipal sewage treatment plant (SIC Code: 4952 - Sewerage Systems). This permit action consists of reissuing the permit with revisions to the permit, as needed, due to changes in applicable laws, guidance, and available technical information.

1. Facility Name and Address:
   Glenmore WRRF
   695 Moores Creek Lane
   Charlottesville, VA 22902
   Location: 3395 Carroll Creek Road, Shadwell

2. Permit No. VA0086584; Expiration Date: July 31, 2016

3. Owner: Rivanna Water and Sewer Authority (RWSA)
   Contact Name: Tim Castillo
   Title: Wastewater Manager
   Telephone No: (434) 977-2970 x 155
   Email: tcastillo@rivanna.org

4. Description of Treatment Works Treating Domestic Sewage:

   Glenmore WRRF treats domestic sewage generated from the Glenmore subdivision.

   Average Discharge Flow (January 2014 – January 2016) = 0.104 MGD
   Design Average Flow = 0.381 MGD
   Total Number of Outfalls: 1

5. Application Complete Date: March 8, 2016

   Permit Writer: Megan O'Gorek Date: April 4, 2016
   Reviewed By: Dawn Jeffries Date: April 6, 2016

   Public Comment Period: June 15, 2016 to July 15, 2016

6. Receiving Stream Name: Rivanna River
   River Mile: 31.35
   Use Impairment: Yes
   Special Standards: NEW-3
   Tidal Waters: No
   Watershed Name: VAV – H29R Middle Rivanna River/Buck Island Creek
   Basin: James (Middle); Subbasin: N/A
   Section: 10; Class: III

7. Operator License Requirements per 9VAC25-31-200.C: Class III

8. Reliability Class per 9VAC25-790: Class I (assigned August 1, 1991)

9. Permit Characterization:
   ☐ Private ☐ Federal ☐ State ☑ POTW ☐ PVOTW
   ☐ Possible Interstate Effect ☐ Interim Limits in Other Document (attach copy of CSO)

10. Discharge Location Description and Receiving Waters Information: Appendix A

11. Antidegradation (AD) Review & Comments per 9VAC25-260-30:
Tier Designation: Tier 1

    The State Water Control Board's WQS include an AD policy. All state surface waters are provided one of three levels of AD protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 waters have water quality that is better than the WQS. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 waters are exceptional waters and are so designated by regulatory amendment. The AD policy prohibits new or expanded discharges into exceptional waters.

    The AD review begins with a Tier determination. Rivanna River in the immediate vicinity of the facility discharge location is determined to be Tier 1 because the stream does not meet the General Standard (Benthics) for aquatic life use. AD baselines are not calculated for Tier 1 waters.

12. Impaired Use Status Evaluation per 9VAC25-31-220.D: Rivanna River in the immediate vicinity of the discharge is listed as impaired for not meeting the General Standard (Benthics) for aquatic life use. A Total Daily Maximum Load (TMDL) addressing the impairment includes the following waste load allocation (WLA) for this discharge:

    TSS: 3.48×10^4 lbs/yr (based on a design flow of 0.381 MGD and a concentration of 30 mg/L)

13. Site Inspection: Performed by William Maddox on March 9, 2016

14. Effluent Screening and Effluent Limitations: Appendix B

15. Effluent toxicity testing requirements included per 9VAC25-31-220.D: ☐Yes ☑ No
This STP has a design flow < 1.0 MGD, has no Significant Industrial Users (SIUs) or Categorical Industrial Users (CIUs), and is not deemed to have the potential to cause or contribute to instream toxicity.

16. Sewage sludge is transported to Moores Creek Regional AWRRF for blending and further treatment. The VPDES Permit application serves as the Sludge Management Plan to be approved with the reissuance of the permit.

17. Bases for Special Conditions: Appendix C

18. Material Storage per 9VAC25-31-280.B.2: This permit requires that the facility's O&M Manual include information to address the management of wastes, fluids, and pollutants which may be present at the facility, to avoid unauthorized discharge of such materials.

19. Antibacksliding Review per 9VAC25-31-220.L: This permit complies with the antibacksliding provisions of the VPDES Permit Regulation.

20. Regulation of Users per 9VAC25-31-280.B.9: N/A – This facility is owned by a municipality.

21. Stormwater Management per 9VAC25-31-120: Application Required? ☑ Yes ☐ No

    RWSA is required to have an approved POTW pretreatment program under 9VAC25-31-10 et seq. The permittee submitted a No Exposure Certification (NEC) Statement. The NEC was reviewed by DEQ inspectors on March 22, 2016 and they had no comments. The NEC is to be approved with the reissuance of the permit.

22. Compliance Schedule per 9VAC25-31-250: There are no compliance schedules included in the reissued permit.

23. Variances/Alternative Limits or Conditions per 9VAC25-31-280.B, 100.K, and 100.N: None

24. Financial Assurance Applicability per 9VAC25-650-10: N/A – This facility is owned by a municipality.

25. Virginia Environmental Excellence Program (VEEP) Evaluation per § 10.1-1187.1-7: At the time of this reissuance, is this facility considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level? ☐ Yes ☑ No

26. Nutrient Trading Regulation per 9VAC25-820: See Appendix B
General Permit Required: ☐ Yes ☑ No

    This facility is not required to maintain coverage under the General Virginia Pollutant Discharge Elimination System (VPDES) Watershed Permit Regulation for Total Nitrogen (TN) and Total Phosphorus (TP) Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia ("WGP";9VAC25-820) because it is not listed with a WLA in the Registration List in 9 VAC 25-820-70; nor does the permit authorize expansion to 0.040 MGD or more (or an equivalent industrial load) that is subject to an offset or technology-based requirement; nor it is a new treatment works permitted to discharge more than 1,000 gpd and less than 39,999 gpd and had not commenced the discharge prior to January 1, 2011.

27. Nutrient monitoring included per Guidance Memo No. 14-2011: ☑ Yes ☐ No

    This facility is a Nonsignificant Discharger (all facilities not classified as Significant Dischargers as defined in the WGP). Effluent sampling for TN and TP has not previously been completed and therefore has been included in the permit.

28. Threatened and Endangered (T&E) Species Screening per 9VAC25-260-20 B.8: Because this is not an issuance or reissuance that allows increased discharge flows, T&E screening is not automatically required. However, in accordance with the VPDES Memorandum of Understanding, T&E screening was coordinated on March 3, 2016 through USFWS based upon request. Comments were received on April 7, 2016 and are included in the permit processing file. Comments were considered in the drafting of the permit and were also forwarded to the permittee.

29. Public Notice Information per 9VAC25-31-280.B: All pertinent information is on file, and may be inspected and copied by contacting Megan O'Gorek at: DEQ-Valley Regional Office, P.O. Box 3000, Harrisonburg, Virginia 22801, Telephone No. (540) 574-7845, megan.ogorek@deq.virginia.gov.

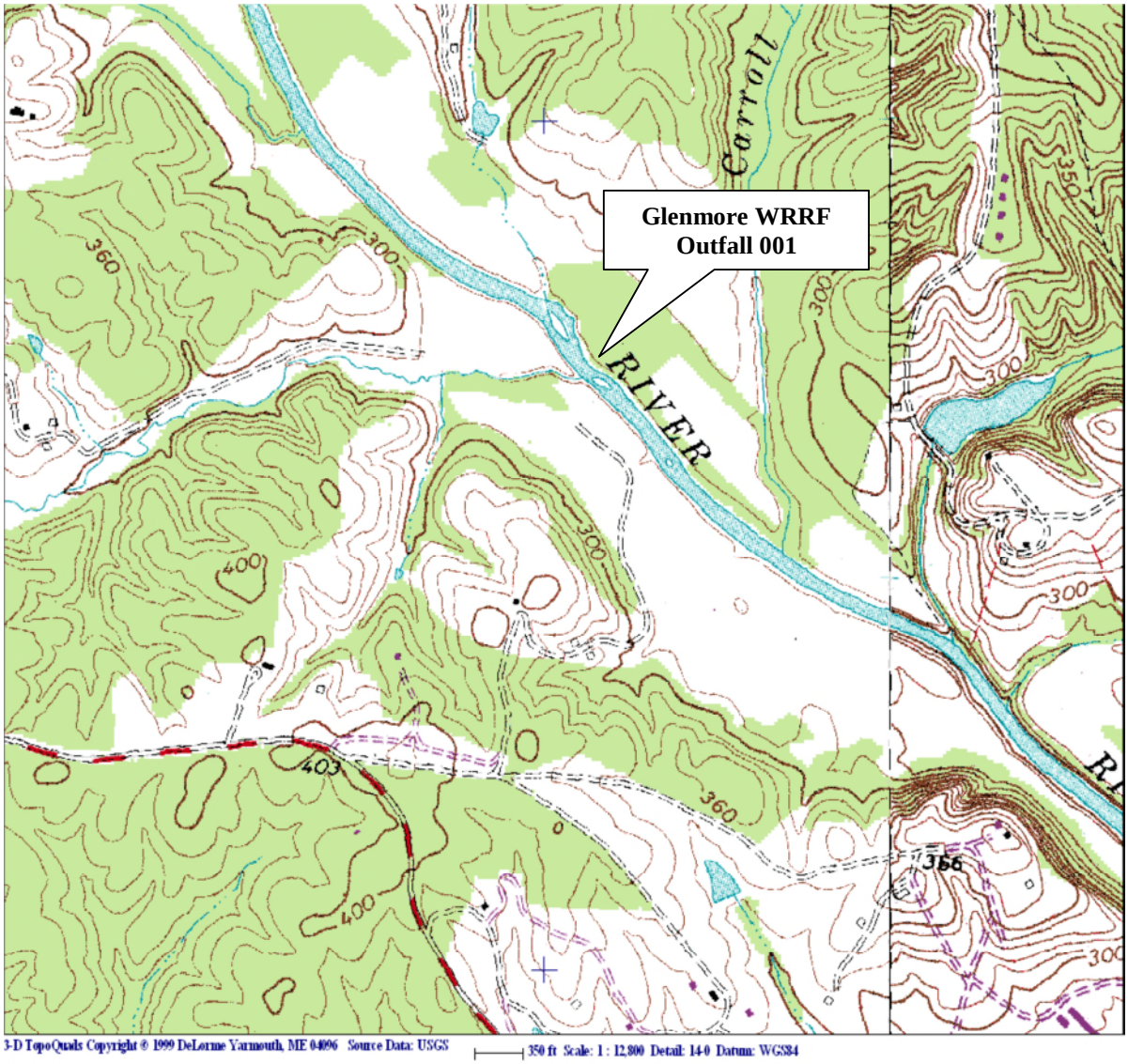
    Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

30. Historical Record: VPDES Permit was issued on August 1, 1991. A Certificate to Operate (CTO) at the 0.381 MGD facility was issued on November 8, 1993.

APPENDIX A

DISCHARGE LOCATION AND RECEIVING WATERS INFORMATION

Glenmore WRRF discharges to the Rivanna River in Albemarle County. The location of Outfall 001 is shown on the topographical map below.



PLANNING INFORMATION

Relevant points of interest within the watershed and in the vicinity of the discharge are shown on the Water Quality Assessments Review table below.

WATER QUALITY ASSESSMENTS REVIEW
MIDDLE JAMES RIVER BASIN
3/7/2016

IMPAIRED SEGMENTS

SEGMENT ID	STREAM	SEGMENT START	SEGMENT END	SEGMENT LENGTH	PARAMETER	
H28R-01-BEN	Rivanna River/Moores	41.93/.58	30.77/0.00	11.74	Benthic	
H29R-03-BAC	Buck Island Creek	8.98	0.00	8.98	E-coli	
H29R-03-BEN	Buck Island Creek	2.58	0.00	2.58	Benthic	
H29R-04-BEN	Carroll Creek	9.12	0.00	9.12	Benthic	

PERMITS

PERMIT	FACILITY	STREAM	RIVER MILE	LAT	LONG	WBID
VA0086584	**Glenmore WRRF**	**Rivanna River**	**31.35**	**375844**	**782258**	**VAV-H29R**
VA0092622	Lake Monticello WTP	Rivanna River	25.82	375625	782012	VAV-H29R
VA0092720	Ryder Enterprises WV	Barn Branch UT	0.33	380059	782500	VAV-H29R
VA0075981	Comfort Inn Monticello	Shadwell Creek	0.66	380113	782528	VAV-H29R
VA0076244	Stone Robinson Eleme	Rivanna River	34.05	380036	782403	VAV-H29R
VA0085979	Keswick STP-001	Carroll Creek X Trib	0.03	380017	782132	VAV-H29R
VA0085979	Keswick STP-004	Broadmoor Lake	3.22	380045	785112	VAV-H29R

MONITORING STATIONS

STREAM	NAME	RIVER MILE	RECORD	LAT	LONG	
Buck Island Creek	2-BID002.11	2.11	07/21/05	375715	782415	
Rivanna River	2-RVN033.65	33.65	10/07/68	380018	782358	
Carroll Creek	2-CRR000.27	0.27	06/06/07	375843	782239	
Rivanna River	2BRVN032.46	32.46	05/23/02	375934	782329	
Rivanna River	2BRVN035.67	35.67	05/23/02	380032	782456	

PUBLIC WATER SUPPLY INTAKES

OWNER	STREAM	RIVER MILE				
LAKE MONTICELLO	RIVANNA RIVER	25.74				

WATER QUALITY MANAGEMENT PLANNING REGULATION

Is this discharge addressed in the WQMP regulation? **No**

If Yes, what effluent limitations or restrictions does the WQMP regulation impose on this discharge?

PARAMETER	ALLOCATION					

WATERSHED NAME

VAV-H29R Middle Rivanna River/Buck Island Creek

FLOW FREQUENCY DETERMINATION

The USGS and VDEQ have operated a continuous record gage on the Rivanna River at Palmyra (#02034000) since 1933. The flow frequencies for the gage have been determined using the period of record. The gage is located at the Rte. 15 bridge in Fluvanna County, VA. The gage is influenced by Glenmore WRRF, Keswick STP, Fluvanna Correctional Center for Women, and Lake Monticello STP, all which discharge upstream of the gage. The gage is also influenced by three water withdrawals upstream of the gage: Glenmore Country Club, Fluvanna Correctional Center, and Lake Monticello. The average discharges over the past 12 months and the average withdrawals are presented below:

Discharges

Facility Name	Average Discharge Flow (cfs)
Glenmore STP	0.160
Keswick STP	0.049
Fluvanna Correctional Center	0.25
Lake Monticello STP	1.18
Total	**1.64**

Withdrawals

Facility Name	Average Withdrawal Flow (cfs)
Lake Monticello	0.94
Glenmore Country Club	0.105
Fluvanna Correctional Center	0.20
Total	**1.24**

The discharges were subtracted from the gage flows, the withdrawals were added to the gage flows, and then a drainage area proportion was used to determine the flow frequencies at the discharge point. The flow frequencies of the gage and the discharge location are presented below.

Rivanna River at Palmyra, VA (#02034000) minus average STP discharges plus maximum water withdrawals:

Drainage Area = 663 mi^2

1Q30 =	13.8 cfs – 1.64 cfs + 1.24 cfs = 13.4 cfs	High Flow 1Q10 =	111 cfs – 1.64 cfs + 1.24 cfs = 111 cfs
1Q10 =	23.7 cfs – 1.64 cfs + 1.24 cfs = 23.3 cfs	High Flow 7Q10 =	133 cfs – 1.64 cfs + 1.24 cfs = 133 cfs
7Q10 =	27.5 cfs – 1.64 cfs + 1.24 cfs = 27.1 cfs	High Flow 30Q10 =	182 cfs – 1.64 cfs + 1.24 cfs = 182 cfs
30Q10 =	40.3 cfs – 1.64 cfs + 1.24 cfs = 39.9 cfs	HM =	225 cfs – 1.64 cfs + 1.24 cfs = 225 cfs
30Q5 =	58.5cfs – 1.64 cfs + 1.24 cfs = 58.1 cfs		

Rivanna River, at Glenmore WRRF discharge location:

Drainage Area = 519.77 mi^2

1Q30 =	10.5 cfs	6.79 MGD	High Flow 1Q10 =	87 cfs	56.2 MGD
1Q10 =	18.3 cfs	11.8 MGD	High Flow 7Q10 =	104 cfs	67.4 MGD
7Q10 =	21.2 cfs	13.7 MGD	High Flow 30Q10 =	143cfs	92.2 MGD
30Q10 =	31.3 cfs	20.2 MGD	HM =	176 cfs	114 MGD
30Q5 =	45.5 cfs	29.4 MGD			

This does not take into account any future increases in discharge flow or withdraw flow, which will be reflected in future reference gage flow statistics. The analysis does not address any other withdrawals, discharges, or springs lying between the gage and the outfall or upstream of the discharge.

The high flow months are December through May.

Reviewed by: DMJ 3/11/16

EFFLUENT/STREAM MIXING EVALUATION

Mixing zone predictions were made with the Virginia DEQ Mixing Zone Analysis Version 2.1 program. The predictions are based on the discharge and receiving stream characteristics, and are presented below.

Effluent Flow = 0.381 MGD
Stream 7Q10 = 13.7 MGD
Stream 30Q10 = 20.2 MGD
Stream 1Q10 = 11.8 MGD
Stream slope = 0.001 ft/ft
Stream width = 65 ft
Bottom scale = 2
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = .7194 ft
Length = 7193.15 ft
Velocity = .4661 ft/sec
Residence Time = .1786 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = .9055 ft
Length = 5915.73 ft
Velocity = .5413 ft/sec
Residence Time = .1265 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = .6591 ft
Length = 7746.98 ft
Velocity = .4401 ft/sec
Residence Time = 4.8893 hours

Recommendation:

A complete mix assumption is appropriate for this situation providing no more than 20.45% of the 1Q10 is used.

APPENDIX B

EFFLUENT SCREENING AND EFFLUENT LIMITATIONS

EFFLUENT LIMITATIONS

A comparison of technology and water quality-based limits was performed and the most stringent limits were selected, as summarized in the table below.

Outfall 001 **Final Limits** **Design Flow: 0.381 MGD**

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average		Maximum		Frequency	Sample Type
Flow (MGD)	1	NL		NL		Continuous	TIRE
---	---	Monthly Average		Weekly Average		---	---
$CBOD_5$	3,4	15 mg/L	22 kg/d	22 mg/L	32 kg/d	1/Week	8 HC
TKN (as N)	3,4	10 mg/L	14 kg/d	15 mg/L	22 kg/d	1/Week	8 HC
TSS	2,5	30 mg/L	43 kg/d	45 mg/L	65 kg/d	1/Month	8 HC
Effluent Chlorine (TRC)(mg/L)*	3	0.064		0.073		3/Day at 4-Hr. Intervals	Grab
E. coli (N/100 mL) (geometric mean)	3	126		NA		4/Month* or 4/Month in any month of each calendar year**	Grab
---	---	Minimum		Maximum		---	---
pH (S.U.)	3	6.0		9.0		1/Day	Grab
Dissolved Oxygen (mg/L)	3,4	5.0		NA		1/Day	Grab
Contact Chlorine (TRC)(mg/L)*	3,6	1.0		NA		3/Day at 4-Hr. Intervals	Grab
Nitrite-N + Nitrate-N (mg/L)	7	NA		NL		1/Year	8 HC
Total Nitrogen (mg/L)	7	NA		NL		1/Year	Calculated
Total Phosphorus (mg/L)	7	NA		NL		1/Year	8 HC

Refer to permit for definitions of monitoring frequencies and sample types
** Applicable only when chlorination is used for disinfection*
*** Applicable if an alternative to chlorination is used for disinfection*

BASIS DESCRIPTIONS

1. *VPDES Permit Regulation (9VAC25-31)*
2. *Federal Effluent Requirements (Secondary Treatment Regulation - 40CFR133)*
3. *Water Quality Standards (9VAC25-260)*
4. *Regional Stream Model*
5. *Rivanna River TMDL*
6. *Best Professional Judgment (BPJ)*
7. *Guidance Memo. 14-2011*

LIMITING FACTORS – OVERVIEW:
The following potential limiting factors have been considered in developing this permit and fact sheet:

Water Quality Management Plan Regulation (WQMP) (9VAC25-720)	
A. TMDL limits	**TSS**
B. Non-TMDL WLAs	**None**
C. CBP (TN & TP) WLAs	**None**
Federal Effluent Guidelines	**$CBOD_5$, TSS, pH**
BPJ/Agency Guidance limits	**TRC (contact), TN, TP, Nitrite-N + Nitrate-N, TKN**
Water Quality-based Limits - numeric	**$CBOD_5$, DO, TKN, TRC (effluent), E. coli, pH**
Water Quality-based Limits - narrative	**None**
Technology-based Limits (9VAC25-40-70)	**None**
Whole Effluent Toxicity (WET)	**None**
Storm Water Limits	**NEC approved with reissuance of the permit**

EVALUATION OF THE EFFLUENT – CONVENTIONAL POLLUTANTS:
The discharge for Glenmore WRRF was previously modeled using the Regional Stream Model (v 4.11) and is included as a component of a larger, three part Rivanna River model that begins at the Moore's Creek confluence with the Rivanna River and continues downstream to 1.14 miles downstream of the Rivanna River confluence with Raccoon Creek. Because of new receiving stream flows, the discharge was remodeled at this reissuance. The limits established in the model are considered to be protective of the DO WQS in the Rivanna River. The modeling information is available for review at the DEQ-Valley Regional Office or electronically upon request.

The concentrations below were demonstrated to maintain the WQS in the Rivanna River:

$CBOD_5$ = 15 mg/L
TKN = 10 mg/L
DO = 5 mg/L

The $CBOD_5$ limits have been carried forward from the previous permit.

The TKN limits have been carried forward from the previous permit.

The permittee requested to continue the reduced monitoring frequency that was previously granted of 1/Week for $CBOD_5$ and TKN. Baseline monitoring frequency for both of these parameters is 3/Week for this facility. The facility has had no compliance or enforcement problems in the past three years and therefore remains eligible for this reduction. In addition, the variability of the effluent characteristics has been considered. As specified in Guidance Memo No. 14-2003, the following procedures were used in the monitoring reduction analysis. The three-year average of data was calculated. The average values were compared with the permit limits for each parameter and with the information in the table on page MN-2 of Guidance Memo No. 14-2003 to determine the potential monitoring frequency reduction. The average BOD_5 concentration for the past three years is 1.7 mg/L and the permit limit is 15 mg/L. Because the ratio of the average effluent concentration to the monthly average permit limit was less than 25%, the reduced monitoring frequency of 1/Week in the previous permit has been carried forward. The average TKN concentration for the past three years is 0.39 mg/L and the permit limit is 10 mg/L. Because the ratio of the average effluent concentration to the monthly average permit limit was less than 25%, the reduced monitoring frequency of 1/Week in the previous permit has been carried forward.

The permittee is expected to take all appropriate measures to control both the average level of pollutants of concern in the discharge as well as the variability of such parameters in the discharge, regardless of any reductions in monitoring frequencies granted from the baseline levels. A special condition has been included in the permit that requires increased monitoring for BOD_5 and TKN if the facility is issued a Notice of Violation for any parameter with reduced monitoring.

The DO limit has been carried forward from the previous permit.

The TSS limits are consistent with the Secondary Treatment Regulation and the Rivanna TMDL WLA and have been carried forward from the previous permit.

The pH limits reflect the current WQS for pH in the receiving stream and have been carried forward from the previous permit.

EVALUATION OF THE EFFLUENT – DISINFECTION:

The facility utilizes UV for disinfection. The E. coli limits have been carried forward from the previous permit. The monitoring frequency of 1/Week has also been carried forward (applied as 4/Month). The E. coli limits are protective of the current WQS for E. coli in the receiving stream. Chlorine limits are also specified in the permit, but are only applicable should the facility need to utilize chlorine disinfection. In addition to the minimum TRC contact requirements, E. coli monitoring at a frequency of 4/Month sampling during at least 1 month in each calendar year of the permit term has been imposed to demonstrate compliance with the monthly geometric mean limit and to ensure adequate disinfection. This additional E. coli monitoring has been imposed in accordance with Guidance Memo No. 14-2003.

EVALUATION OF THE EFFLUENT – NUTRIENTS:

In accordance with § 62.1-44.19:14.C.5 of the Code of Virginia, TN and TP baselines were previously established for this facility to represent nutrient discharge allowances as of July 1, 2005. These baselines will be used as a limiting factor should the facility ever expand or have a significant increase in effluent TN or TP concentrations. For municipal facilities, the baselines are based on the permitted design capacity of the facility. The permitted design capacity is defined as

Total N or P (lb/yr) = concentration (mg/L) x design flow (MGD) x 8.345 x 365 (days/yr)

where:

Design flow – as of July 1, 2005, the approved flow was 0.381 MGD
Concentration – the treatment provided as of July 1, 2005 was TN = 18.7 mg/L and TP = 2.5 mg/L (assumed concentrations based on secondary treatment facility)

TN = 18.7 mg/l x 0.381 MGD x 8.345 x 365 days/yr = 21,701 lb/yr
TP = 2.5 mg/l x 0.381 MGD x 8.345 x 365 days/yr = 2,901 lb/yr

The "permitted design capacity" or "permitted capacity" in terms of annual mass load of total nitrogen or total phosphorus discharged by this non-significant discharger is assumed to be that achieved at the current design flow using the currently installed technology.

Nonsignificant dischargers are subject to aggregate wasteload allocations for TN, TP, and Sediment under the TMDL for the Chesapeake Bay. In accordance with Guidance Memo No. 14-2011, monitoring of TN and TP is required for this permit term in order to verify the aggregate WLAs.

EVALUATION OF THE EFFLUENT – TOXICS:

Stream: Water quality data for the receiving stream were obtained from Ambient Monitoring Station No. 2-RVN033.65 on the Rivanna River approximately 0.2 miles downstream of Rt. 729. A Flow Frequency Determination for the receiving stream was generated March 11, 2016 and is included in Appendix A.

Stream Information			
90% Annual Temp (°C) =	26.1	90% pH (SU) =	8.0
Mean Hardness (mg/L) =	26	10% pH (SU) =	6.7

All toxic pollutants, including Ammonia-N and TRC, are assumed absent in the receiving stream because there are no data for these parameters directly above the discharge.

Discharge: The pH and temperature data (January 2014-December 2015) were obtained from data submitted by the permittee. The hardness value was carried forward from the previous fact sheet as no new data were available.

Effluent Information			
90% Annual Temp (°C) =	21.4	90% pH (SU) =	6.8
Mean Hardness (mg/L) =	51	10% pH (SU) =	6.6

WQC and WLAs were calculated for the WQS parameters for which data are available. The resulting WQC and WLAs are presented in this appendix. Current agency guidelines recommends the evaluation of toxic pollutant limits for TRC and Ammonia-N be based on default effluent concentrations of 20 mg/L and 9 mg/L, respectively. The effluent data were analyzed per the protocol for evaluation of effluent toxic pollutants included in this appendix with the following results:

- TRC: More stringent limits were determined to be necessary. Glenmore WRRF currently utilizes UV disinfection, and as such, no compliance schedule has been included to meet the more stringent limits.
- Ammonia-N: No limits were determined to be necessary.
- Data are still needed for one WQS toxic pollutant. This monitoring must be performed for submittal with the next reissuance application and must be reported using Attachment A of the permit.

WQC-WLA SPREADSHEET INPUT

WATER QUALITY CRITERIA / WASTE LOAD ALLOCATION ANALYSIS

Facility Name: Glenmore WRRF
Receiving Stream: Rivanna River
Permit No.: VA0089508
Date: 3/31/2016
Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information			Stream Flows			Mixing Information			Effluent Information		
Mean Hardness (as CaCO3) =	26	mg/L	1Q10 (Annual) =	11.8	MGD	Annual	- 1Q10 Flow =	20.45 %	Mean Hardness (as CaCO3) =	51	mg/L
90% Temperature (Annual) =	26.1	deg C	7Q10 (Annual) =	13.7	MGD		- 7Q10 Flow =	100 %	90% Temp (Annual) =	21.4	deg C
90% Temperature (Wet season) =		deg C	30Q10 (Annual) =	20.2	MGD		- 30Q10 Flow =	100 %	90% Temp (Wet season) =		deg C
90% Maximum pH =	8	SU	1Q10 (Wet season) =	56.2	MGD	Wet Season	- 1Q10 Flow =	%	90% Maximum pH =	6.8	SU
10% Maximum pH =	6.7	SU	30Q10 (Wet season) =	92.2	MGD		- 30Q10 Flow =	%	10% Maximum pH =	6.6	SU
Tier Designation =	1		30Q5 =	29.4	MGD				Current Discharge Flow =	0.381	MGD
Public Water Supply (PWS) Y/N? =	N		Harmonic Mean =	114	MGD				Discharge Flow for Limit Analysis =	0.381	MGD
V(alley) or P(iedmont)? =	P										
Trout Present Y/N? =	N										
Early Life Stages Present Y/N? =	Y										

Footnotes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise.
2. All flow values are expressed as Million Gallons per Day (MGD).
3. Discharge volumes are highest monthly average or 2C maximum for Industries and design flows for Municipals.
4. Hardness expressed as mg/l CaCO3. Standards calculated using Hardness values in the range of 25-400 mg/l CaCO3.
5. "Public Water Supply" protects for fish & water consumption. "Other Surface Waters" protects for fish consumption only.
6. Carcinogen "Y" indicates carcinogenic parameter.
7. Ammonia WQSs selected from separate tables, based on pH and temperature.
8. Metals measured as Dissolved, unless specified otherwise.
9. WLA = Waste Load Allocation (based on standards).
10. WLA = Waste Load Allocation (based on standards).
11. WLAs are based on mass balances (less background, if data exist).
12. Acute - 1 hour avg. concentration not to be exceeded more than 1/3 years.
13. Chronic - 4 day avg. concentration (30 day avg. for Ammonia) not to be exceeded more than 1/3 years.
14. Mass balances employ 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, and Harmonic Mean for Carcinogens. Actual flows employed are a function of the mixing analysis and may be less than the actual flows.
15. Effluent Limitations are calculated elsewhere using the minimum WLA and EPA's statistical approach (Technical Support Document).

WQC-WLA SPREADSHEET OUTPUT

Facility Name: Glenmore WRRF
Receiving Stream: Rivanna River

	WATER QUALITY CRITERIA (0.381 MGD Discharge Flow - Mix per "Mixer")				NON-ANTIDEGRADATION WASTE LOAD ALLOCATIONS (0.381 MGD Discharge - Mix per "Mixer")			
	Aquatic Protection		Human Health		Aquatic Protection		Human	Target
Toxic Parameter and Form	Acute	Chronic	Public Water Supplies	Other Surface Waters	Acute	Chronic	Health	Level
Ammonia-N (Annual)	1.9E+01 mg/L	1.3E+00 mg/L	None	None	1.4E+02 mg/L	7.3E+01 mg/L	N/A	N/A
Chlorine, Total Residual	1.9E-02 mg/L	1.1E-02 mg/L	None	None	1.4E-01 mg/L	4.1E-01 mg/L	N/A	N/A

PROTOCOL FOR THE EVALUATION OF THE EFFLUENT – TOXIC POLLUTANTS

Toxic pollutants were evaluated in accordance with OWP Guidance Memo No. 00-2011. Acute and Chronic WLAs (WLA_a and WLA_c) were analyzed according to the protocol below using a statistical approach (STAT.exe) to determine the necessity and magnitude of limits. Human Health WLAs (WLA_{hh}) were analyzed according to the same protocol through a simple comparison with the effluent data. If the WLA_{hh} exceeded the effluent datum or data mean, no limits were required. If the effluent datum or data mean exceeded the WLA_{hh}, the WLA_{hh} was imposed as the limit.

Since there are no data available for any toxic pollutants immediately upstream of this discharge, all upstream (background) pollutant concentrations are assumed to be "0".

The steps used in evaluating the effluent data are as follows:

A. If all data are reported as "below detection" or < the Quantification Level (QL) and at least one detection level is ≤ the required QL, then the pollutant is considered to be not significantly present in the discharge and no further monitoring is required.

B. If all data are reported as "below detection", and all detection levels are > the required QL, then an evaluation is performed in which the pollutant is assumed present at the lowest reported detection level.

   B.1. If the evaluation indicates that no limits are needed, then the existing data set is adequate and no further monitoring is required.

   B.2. If the evaluation indicates that limits are needed, then the existing data set is inadequate to make a determination and additional monitoring is required.

C. If any data value is reported as detectable at or above the required QL, then the data are adequate to determine whether effluent limits are needed.

   C.1. If the evaluation indicates that no limits are needed, then no further monitoring is required.

   C.2. If the evaluation indicates that limits are needed, then the limits and associated requirements are specified in the draft permit.

Parameter	CASRN	QL (ug/L)	Data (ug/L unless noted otherwise)	Source of Data	Data Eval
METALS					
Antimony, dissolved	7440-36-0	0.2	Previously evaluated, no further monitoring required.	---	---
Arsenic, dissolved	7440-38-2	1.0	Previously evaluated, no further monitoring required	**---**	
Barium, dissolved	7440-39-3	---	Applicable to PWS waters only	---	---
Cadmium, dissolved	7440-43-9	0.3	Previously evaluated, no further monitoring required	**---**	---
Chromium III, dissolved	16065-83-1	0.5	Previously evaluated, no further monitoring required	**---**	---
Chromium VI, dissolved	18540-29-9	0.5	Previously evaluated, no further monitoring required	**---**	---
Chromium, Total	7440-47-3	---	Applicable to PWS waters only	---	---
Copper, dissolved	7440-50-8	0.5	Previously evaluated, no further monitoring required	**---**	---
Iron, dissolved	7439-89-6	1.0	Applicable to PWS waters only	---	---
Lead, dissolved	7439-92-1	0.5	Previously evaluated, no further monitoring required	---	---
Manganese, dissolved	7439-96-5	0.2	Applicable to PWS waters only	---	---
Mercury, dissolved	7439-97-6	1.0	Previously evaluated, no further monitoring required	---	---
Nickel, dissolved	7440-02-0	0.5	Previously evaluated, no further monitoring required	---	---
Selenium, total recoverable	7782-49-2	2.0	Previously evaluated, no further monitoring required	---	---
Silver, dissolved	7440-22-4	0.2	Previously evaluated, no further monitoring required	---	---
Thallium, dissolved	7440-28-0	---	Previously evaluated, no further monitoring required	---	---
Zinc, dissolved	7440-66-6	2.0	Previously evaluated, no further monitoring required	---	---
PESTICIDES/PCBS					
Aldrin [C]	309-00-2	0.05	Previously evaluated, no further monitoring required	---	---
Chlordane [C]	57-74-9	0.2	Previously evaluated, no further monitoring required	---	---
Chlorpyrifos	2921-88-2	---	Previously evaluated, no further monitoring required	---	---
DDD [C]	72-54-8	0.1	Previously evaluated, no further monitoring required	---	---
DDE [C]	72-55-9	0.1	Previously evaluated, no further monitoring required	---	---
DDT [C]	50-29-3	0.1	Previously evaluated, no further monitoring required	---	---
Demeton	8065-48-3	---	Previously evaluated, no further monitoring required	---	---
Diazinon	333-41-5	---	**<0.100**	**b**	**A**
Dieldrin [C]	60-57-1	0.1	Previously evaluated, no further monitoring required	---	---
Alpha-Endosulfan	959-98-8	0.1	Previously evaluated, no further monitoring required	---	---
Beta-Endosulfan	33213-65-9	0.1	Previously evaluated, no further monitoring required	---	---
Alpha-Endosulfan + Beta-Endosulfan		---	Previously evaluated, no further monitoring required	---	---
Endosulfan Sulfate	1031-07-8	0.1	Previously evaluated, no further monitoring required	---	---
Endrin	72-20-8	0.1	Previously evaluated, no further monitoring required	---	---
Endrin Aldehyde	7421-93-4	---	Previously evaluated, no further monitoring required	---	---
Guthion	86-50-0	---	Previously evaluated, no further monitoring required	---	---
Heptachlor [C]	76-44-8	0.05	Previously evaluated, no further monitoring required	---	---
Heptachlor Epoxide [C]	1024-57-3	---	Previously evaluated, no further monitoring required	---	---
Hexachlorocyclohexane Alpha-BHC [C]	319-84-6	---	Previously evaluated, no further monitoring required	---	---
Hexachlorocyclohexane Beta-BHC [C]	319-85-7	---	Previously evaluated, no further monitoring required	---	---
Hexachlorocyclohexane Gamma-BHC (synonym = Lindane)	58-89-9	---	Previously evaluated, no further monitoring required	---	---
Kepone	143-50-0	---	Previously evaluated, no further monitoring required	---	---
Malathion	121-75-5	---	Previously evaluated, no further monitoring required	---	---
Methoxychlor	72-43-5	---	Previously evaluated, no further monitoring required	---	---

Parameter	CASRN	QL (ug/L)	Data (ug/L unless noted otherwise)	Source of Data	Data Eval
Mirex	2385-85-5	---	Previously evaluated, no further monitoring required	---	---
Parathion	56-38-2	---	Previously evaluated, no further monitoring required	---	---
PCB Total [C]	1336-36-3	7.0	Previously evaluated, no further monitoring required	---	---
Toxaphene [C]	8001-35-2	5.0	Previously evaluated, no further monitoring required	---	---
BASE NEUTRAL EXTRACTABLES					
Acenaphthene	83-32-9	10.0	Previously evaluated, no further monitoring required	---	---
Anthracene	120-12-7	10.0	Previously evaluated, no further monitoring required	---	---
Benzidine [C]	92-87-5	---	Previously evaluated, no further monitoring required	---	---
Benzo (a) anthracene [C]	56-55-3	10.0	Previously evaluated, no further monitoring required	---	---
Benzo (b) fluoranthene [C]	205-99-2	10.0	Previously evaluated, no further monitoring required	---	---
Benzo (k) fluoranthene [C]	207-08-9	10.0	Previously evaluated, no further monitoring required	---	---
Benzo (a) pyrene [C]	50-32-8	10.0	Previously evaluated, no further monitoring required	---	---
Bis 2-Chloroethyl Ether [C]	111-44-4	---	Previously evaluated, no further monitoring required	---	---
Bis 2-Chloroisopropyl Ether	108-60-1	---	Previously evaluated, no further monitoring required	---	---
Bis-2-Ethylhexyl Phthalate [C]	117-81-7	10.0	Previously evaluated, no further monitoring required	---	---
Butyl benzyl phthalate	85-68-7	10.0	Previously evaluated, no further monitoring required	---	---
2-Chloronaphthalene	91-58-7	---	Previously evaluated, no further monitoring required	---	---
Chrysene [C]	218-01-9	10.0	Previously evaluated, no further monitoring required	---	---
Dibenz(a,h)anthracene [C]	53-70-3	20.0	Previously evaluated, no further monitoring required	---	---
1,2-Dichlorobenzene	95-50-1	10.0	Previously evaluated, no further monitoring required	---	---
1,3-Dichlorobenzene	541-73-1	10.0	Previously evaluated, no further monitoring required	---	---
1,4-Dichlorobenzene	106-46-7	10.0	Previously evaluated, no further monitoring required	---	---
3,3-Dichlorobenzidine [C]	91-94-1	---	Previously evaluated, no further monitoring required	---	---
Diethyl phthalate	84-66-2	10.0	Previously evaluated, no further monitoring required	---	---
Dimethyl phthalate	131-11-3	---	Previously evaluated, no further monitoring required	---	---
Di-n-Butyl Phthalate	84-74-2	10.0	Previously evaluated, no further monitoring required	---	---
2,4-Dinitrotoluene	121-14-2	10.0	Previously evaluated, no further monitoring required	---	---
1,2-Diphenylhydrazine [C]	122-66-7	---	Previously evaluated, no further monitoring required	---	---
Fluoranthene	206-44-0	10.0	Previously evaluated, no further monitoring required	---	---
Fluorene	86-73-7	10.0	Previously evaluated, no further monitoring required	---	---
Hexachlorobenzene [C]	118-74-1	---	Previously evaluated, no further monitoring required	---	---
Hexachlorobutadiene [C]	87-68-3	---	Previously evaluated, no further monitoring required	---	---
Hexachlorocyclopentadiene	77-47-4	---	Previously evaluated, no further monitoring required	---	---
Hexachloroethane [C]	67-72-1	---	Previously evaluated, no further monitoring required	---	---
Indeno(1,2,3-cd)pyrene [C]	193-39-5	20.0	Previously evaluated, no further monitoring required	---	---
Isophorone [C]	78-59-1	10.0	Previously evaluated, no further monitoring required	---	---
Nitrobenzene	98-95-3	10.0	Previously evaluated, no further monitoring required	---	---
N-Nitrosodimethylamine [C]	62-75-9	---	Previously evaluated, no further monitoring required	---	---
N-Nitrosodi-n-propylamine [C]	621-64-7	---	Previously evaluated, no further monitoring required	---	---
N-Nitrosodiphenylamine [C]	86-30-6	---	Previously evaluated, no further monitoring required	---	---
Pyrene	129-00-0	10.0	Previously evaluated, no further monitoring required	---	---
1,2,4-Trichlorobenzene	120-82-1	10.0	Previously evaluated, no further monitoring required	---	---
VOLATILES					
Acrolein	107-02-8	---	Previously evaluated, no further monitoring required	---	---

Parameter	CASRN	QL (ug/L)	Data (ug/L unless noted otherwise)	Source of Data	Data Eval
Acrylonitrile [C]	107-13-1	---	Previously evaluated, no further monitoring required	---	---
Benzene [C]	71-43-2	10.0	Previously evaluated, no further monitoring required	---	---
Bromoform [C]	75-25-2	10.0	Previously evaluated, no further monitoring required	---	---
Carbon Tetrachloride [C]	56-23-5	10.0	Previously evaluated, no further monitoring required	---	---
Chlorobenzene	108-90-7	50.0	Previously evaluated, no further monitoring required	---	---
Chlorodibromomethane [C]	124-48-1	10.0	Previously evaluated, no further monitoring required	---	---
Chloroform	67-66-3	10.0	Previously evaluated, no further monitoring required	---	---
Dichlorobromomethane [C]	75-27-4	10.0	Previously evaluated, no further monitoring required	---	---
1,2-Dichloroethane [C]	107-06-2	10.0	Previously evaluated, no further monitoring required	---	---
1,1-Dichloroethylene	75-35-4	10.0	Previously evaluated, no further monitoring required	---	---
1,2-trans-dichloroethylene	156-60-5	---	Previously evaluated, no further monitoring required	---	---
1,2-Dichloropropane [C]	78-87-5	---	Previously evaluated, no further monitoring required	---	---
1,3-Dichloropropene [C]	542-75-6	---	Previously evaluated, no further monitoring required	---	---
Ethylbenzene	100-41-4	10.0	Previously evaluated, no further monitoring required	---	---
Methyl Bromide	74-83-9	---	Previously evaluated, no further monitoring required	---	---
Methylene Chloride [C]	75-09-2	20.0	Previously evaluated, no further monitoring required	---	---
1,1,2,2-Tetrachloroethane [C]	79-34-5	---	Previously evaluated, no further monitoring required	---	---
Tetrachloroethylene	127-18-4	10.0	Previously evaluated, no further monitoring required	---	---
Toluene	10-88-3	10.0	Previously evaluated, no further monitoring required	---	---
1,1,2-Trichloroethane [C]	79-00-5	---	Previously evaluated, no further monitoring required	---	---
Trichloroethylene [C]	79-01-6	10.0	Previously evaluated, no further monitoring required	---	---
Vinyl Chloride [C]	75-01-4	10.0	Previously evaluated, no further monitoring required	---	---
RADIONUCLIDES					
Beta Particle & Photon Activity (mrem/yr)	N/A	---	Applicable to PWS waters only	---	---
Combined Radium 226 and 228 (pCi/L)	N/A	---	Applicable to PWS waters only	---	---
Gross Alpha Particle Activity (pCi/L)	N/A	---	Applicable to PWS waters only	---	---
Uranium	N/A	---	Applicable to PWS waters only	---	---
ACID EXTRACTABLES					
2-Chlorophenol	95-57-8	10.0	Previously evaluated, no further monitoring required	---	---
2,4-Dichlorophenol	120-83-2	10.0	Previously evaluated, no further monitoring required	---	---
2,4-Dimethylphenol	105-67-9	10.0	Previously evaluated, no further monitoring required	---	---
2,4-Dinitrophenol	51-28-5	---	Previously evaluated, no further monitoring required	---	---
2-Methyl-4,6-Dinitrophenol	534-52-1	---	Previously evaluated, no further monitoring required	---	---
Nonylphenol	104-40-51	---	**<10.0**	**b**	**A**
Pentachlorophenol [C]	87-86-5	50.0	Previously evaluated, no further monitoring required	---	---
Phenol	108-95-2	10.0	Previously evaluated, no further monitoring required	---	---
2,4,6-Trichlorophenol [C]	88-06-2	10.0	Previously evaluated, no further monitoring required	---	---
MISCELLANEOUS					
Ammonia-N (mg/L)	766-41-7	0.2 mg/L	**Default = 9 mg/L**	**a**	**C.1**
Chloride (mg/L)	16887-00-6	---	Previously evaluated, no further monitoring required	---	---
TRC (mg/L)	7782-50-5	0.1 mg/L	**Default = 20 mg/L**	**a**	**C.2**
Cyanide, Free	57-12-5	10.0	Previously evaluated, no further monitoring required	---	---
2,4-Dichlorophenoxy acetic acid (synonym = 2,4-D)	94-75-7	---	Applicable to PWS waters only	---	---

Parameter	CASRN	QL (ug/L)	Data (ug/L unless noted otherwise)	Source of Data	Data Eval
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin)(ppq)	1746-01-6	0.01	Applicable to Paper Mills & Oil Refineries only	---	---
Foaming Agents (as MBAS)	N/A	---	Applicable to PWS waters only	---	---
Sulfide, dissolved	18496-25-8	100	**NEW REQUIREMENT. Needs to be sampled.**		
Nitrate as N (mg/L)	14797-55-8	---	Applicable to PWS waters only	---	---
Sulfate (mg/L)	N/A	---	Applicable to PWS waters only	---	---
Total Dissolved Solids (mg/L)	N/A	---	Applicable to PWS waters only	---	---
Tributyltin	60-10-5	---	Previously evaluated, no further monitoring required	---	---
2-(2,4,5-Trichlorophenoxy) propionic acid (synonym = Silvex)	93-72-1	---	Applicable to PWS waters only	---	---
Hardness (mg/L as $CaCO_3$)	471-34-1	---	Previously evaluated, no further monitoring required	---	---

The **superscript "C"** following the parameter name indicates that the substance is a known or suspected carcinogen; human health criteria at risk level 10^{-5}.

CASRN = Chemical Abstract Service Registry Number for each parameter is referenced in the current Water Quality Standards. A unique numeric identifier designating only one substance. The Chemical Abstract Service is a division of the American Chemical Society.

"Source of Data" codes:
a = default effluent concentration
b = data from permittee monitoring

"Data Evaluation" codes:
See section titled PROTOCOL FOR THE EVALUATION OF EFFLUENT TOXIC POLLUTANTS for an explanation of the code used.

STAT.EXE RESULTS

Ammonia-N (Annual)
Chronic averaging period = 30
WLAa = 140
WLAc = 73
Q.L. = 0.2
# samples/mo. = 12
# samples/wk. = 3

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are: 9

TRC
Chronic averaging period = 4
WLAa = 0.14
WLAc = 0.41
Q.L. = 0.1
# samples/mo. = 90
# samples/wk. = 21

Summary of Statistics:

observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average= 24.1210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data
A limit is needed based on Acute Toxicity
Maximum Daily Limit = 0.14
Average Weekly Limit = 7.28995078168668E-02
Average Monthly Limit = 6.43765742388975E-02

The data are: 20

APPENDIX C

BASES FOR PERMIT SPECIAL CONDITIONS

Tabulated below are the sections of the permit, with any changes and the reasons for the changes identified. Also provided is the basis for each of the permit special conditions.

Cover Page	• Content and format as prescribed by the Guidance Memo No. 14-2003. • The facility name was changed.
Part I.A.	**Effluent Limitations and Monitoring Requirements:** Bases for effluent limits and monitoring requirements provided in previous pages of fact sheet. *Updates Part I.A.1 of the previous permit with the following:* • Annual monitoring and associated footnote for TP, Nitrite-N + Nitrate-N, and TN were added per Guidance Memo No. 14-2011. • Added footnotes for reduced monitoring and disinfection.
Part I.B.	**Total Residual Chlorine (TRC) and E. coli Limitations and Monitoring Requirements:** *Updates Part I.B of the previous permit with minor wording changes and more stringent TRC limits. Also, the language regarding a possible waiver of contact tank chlorine requirements based upon E. coli results was removed and E. coli monitoring frequency was added.* Specifies both disinfection and effluent limits and monitoring requirements should the permittee elect to switch from alternate disinfection to chlorine disinfection. Required by Sewage Collection and Treatment (SCAT) Regulations and 9VAC25-260-170, Bacteria; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.
Part I.C	**Effluent Limitations and Monitoring Requirements – Additional Instructions***: Updates Part I.C of the previous permit with minor wording changes. Also, the QL for $CBOD_5$ was changed from 5 mg/L to 2 mg/L and the QL for TKN was added.* Authorized by VPDES Permit Regulation 9 VAC25-31-190 J.4 and 220.I. This condition is necessary when pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion.
Part I.D	**Pretreatment Program Requirements:** *Updates Part I.D of the previous permit with minor wording changes.* An industrial waste survey must be submitted within 180 days of the effective date of this permit. VPDES Permit Regulation 9VAC25-31-730 through 900, and 40 CFR part 403 require certain existing and new sources of pollution to meet specified regulations.
Part I.E.1	**95% Capacity Reopener:** *Updates Part I.E.1 of the previous permit with minor wording changes*. Required by VPDES Permit Regulation 9VAC25-31-200 B 4 for Publicly Owned Treatment Works (POTW) and Privately Owned Treatment Works (PVOTW) permits.
Part I.E.2	**Indirect Dischargers:** *Identical to Part I.E.2 of the previous permit.* Required by VPDES Permit Regulation 9VAC25-31-200.B.1 and B.2 for Publicly Owned Treatment Works (POTW) and Privately Owned Treatment Works (PVOTW) that receive waste from someone other than the owner of the treatment works.
Part I.E.3	**Materials Handling/Storage:** *Updates Part I.E.3 of the previous permit with minor working changes*. 9VAC25-31-50.A prohibits the discharge of any waste into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.

Part I.E.4 **O&M Manual Requirement:** *Updates Part I.E.4 of the previous permit with changes to what is required to be included in the O&M Manual.* Required by Code of Virginia Section 62.1-44.19, Sewage Collection and Treatment (SCAT) Regulations 9VAC25-790, and VPDES Permit Regulation 9VAC25-31-190.E for all STPs.

Part I.E.5 **CTC/CTO Requirement:** *Identical to Part I.E.5 of the previous permit.* Required by Code of Virginia 62.1-44.19, Sewage Collection and Treatment (SCAT) Regulations 9VAC25-790, and VPDES Permit Regulation 9VAC25-31-190.E for all STPs.

Part I.E.6 **SMP Requirement:** *Identical to Part I.E.6 of the previous permit.* VPDES Permit Regulation 9VAC25-31-100.Q, 220.B.2, and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. Technical requirements are derived from the Virginia Pollution Abatement Permit Regulation (9VAC25-32-10 *et seq.*)

Part I.E.7 **Licensed Operator Requirement:** *Identical to Part I.E.7 of the previous permit.* The VPDES Permit Regulation 9VAC25-31-200.C, the Code of Virginia 54.1-2300 et seq., and Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals Regulations (18VAC160-20-10 et seq.), require licensure of operators. A class III license is indicated for this facility.

Part I.E.8 **Reliability Class:** *Identical to Part I.E.8 of the previous permit.* Required by Sewage Collection and Treatment (SCAT) Regulations 9VAC25-790 for all municipal facilities. Class I status recommended by VDH for this facility on 8/1/91.

Part I.E.9 **Water Quality Criteria Monitoring:** *Updates Part I.E.9 of the previous permit with minor wording changes and a different parameter required to be monitored on Attachment A.* State Water Control Law Section 62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. States are required to review data on discharges to identify actual or potential toxicity problems, or the attainment of water quality goals, according to 40 CFR Part 131, Water Quality Standards, Subpart 131.11. To ensure that water quality standards are maintained, the permittee is required to analyze the facility's effluent for the substances noted in Attachment A of this VPDES permit.

Part I.E.10 **Treatment Works Closure Plan**. *Updates Part I.E.10 of the previous permit with minor wording changes*. This condition establishes the requirement to submit a closure plan for the treatment works if the treatment facility is being replaced or is expected to close. This is necessary to ensure industrial sites and treatment works are properly closed so that the risk of untreated waste water discharge, spills, leaks and exposure to raw materials is eliminated and water quality maintained. Section 62.1-44.21 requires every owner to furnish when requested plans, specification, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law.

Part I.E.11 **Reopeners:**

a. *Identical to Part I. E. 11.a of the previous permit.* Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

b. *Identical to Part I. E. 11.b of the previous permit.* 9VAC25-40-70.A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade.

c. *Updates Part I.E.11.c of the previous permit with minor wording changes.* 9VAC25-31-390.A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

d. *Identical to Part I.E.11.d of the previous permit.* Required by the VPDES Permit Regulation 9VAC25-31-220.C, for all permits issued to treatment works treating domestic sewage.

Part I.E.12 **Effluent Monitoring Frequencies:** *New Requirement.* In accordance with Guidance Memo No. 14-2003, a reduction in monitoring frequency has been granted based on a history of permit compliance. To remain eligible for the reduction, the permittee should not have violations related to the effluent limits for which reduced frequencies were granted. If the permittee fails to maintain the previous level of performance, the baseline monitoring frequencies should be reinstated for those parameters that were previously granted a monitoring frequency reduction.

Part II **Conditions Applicable to All VPDES Permits:** *Updates Part II of the previous permit.* VPDES Permit Regulation 9VAC25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

Deletions: None